AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Original) A network, comprising:

a master subnet manager, wherein the master subnet manager is coupled to provide network topology data;

a requested traffic pattern for a packet; and

a connection controller, wherein the connection controller is coupled to receive the requested traffic pattern and the network topology data, compute an actual traffic pattern for the packet and communicate the actual traffic pattern to a source corresponding to the packet such that the network operates as a strictly non-interfering network.

2. (Original) The network of claim 1, wherein the connection controller comprises a packing algorithm, wherein the packing algorithm utilizes the requested traffic pattern and the network topology data to compute the actual traffic pattern.

3. (Previously Presented) The network of claim 1, wherein the network further comprises a plurality of switches, and wherein the connection controller:

calculates a plurality of routing trees for the plurality of switches;

calculates a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches, wherein each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of destinations in the network; and

populates a forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions.

4. (Previously Presented) The network of claim 1, wherein computing an actual traffic pattern comprises executing a rearrangement algorithm and assigning one of a plurality of Destination Location Identifiers (DLID) to the packet such that the network operates as a strictly non-interfering network.

5. (Previously Presented) The network of claim 4, wherein the network further comprises a plurality of switches, wherein the packet follows a path through at least a portion of the plurality of switches in the network, and wherein each of the portion of the plurality of switches forwards the packet according to the one of the plurality of DLIDs assigned to the packet such that the network operates as a strictly non-interfering network.

6. (Previously Presented) The network of claim 5, wherein each of the portion of the plurality of switches looks up the one of the plurality of DLIDs assigned to the packet in a forwarding table.

7. (Previously Presented) The network of claim 5, wherein each of the portion of the plurality of switches forwards the packet in accordance with the one of the plurality of DLIDs assigned to the packet as found in a forwarding table.

8. (Original) The network of claim 1, wherein the network is a Clos network.

9. (Previously Presented) A network comprising a computer-readable medium containing computer instructions for instructing a processor to perform a method of populating a forwarding table, the instructions comprising:

calculating a plurality of routing trees for a plurality of switches;

calculating a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches, wherein each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of end nodes; and

populating the forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions and wherein the forwarding instructions create paths appropriate to make the network operate as a strictly non-interfering network.

10. (Original) The network of claim 9, wherein the network is a Clos network.

11. (Original) The network of claim 9, wherein each of the plurality of end nodes comprises a destination, and wherein the destination is identified by a BaseLID.

12. (Original) The network of claim 9, wherein calculating the plurality of routing trees comprises for each spine node in the network, calculating a shortest path from the spine node to each of the plurality of end nodes.

13. (Previously Presented) The network of claim 9, wherein each of the plurality of routing trees comprises at least a portion of the plurality of switches and corresponding plurality of links that form a shortest path from one of the plurality of end nodes to a spine node of the network.

14. (Previously Presented) A network comprising a computer-readable medium containing computer instructions for instructing a processor to perform a method of forwarding a packet, wherein the packet is created at a source and is addressed to a destination within the network, the instructions comprising:

executing a rearrangement algorithm for the network;

assigning one of a plurality of Destination Location Identifiers (DLID) to the packet; and

the packet following a path through at least a portion of a plurality of switches from the source to the destination, wherein each of the portion of the plurality of switches forward the packet according to the one of the plurality of DLIDs assigned to the packet and wherein the network operates as a strictly non-interfering network.

15. (Cancelled).

16. (Original) The network of claim 14, wherein the network is a Clos network.

17. (Previously Presented) The network of claim 14, wherein the packet following the path comprises looking up the one of the plurality of DLIDs assigned to the packet in a forwarding table at each of the portion of the plurality of switches along the path from the source to the destination.

18. (Previously Presented) The network of claim 14, wherein the packet following the path comprises each of the portion of the plurality of switches forwarding the packet in accordance with the one of the plurality of DLIDs assigned to the packet as found in a forwarding table at each the portion of the plurality of switches.

19. (Previously Presented) A network, comprising:

a master subnet manager, wherein the master subnet manager is coupled to provide network topology data;

a plurality of source end nodes; and

a connection controller, wherein the connection controller is coupled to determine an actual traffic pattern for packets to be transmitted non-interferingly from the plurality of source end nodes based on a requested traffic pattern of the packets and the network topology data received and communicate the actual traffic pattern to the plurality of source end nodes such that the network operates as a strictly non-interfering network.

20. (Previously Presented) The network of claim 19, wherein the connection controller comprises a packing algorithm, wherein the packing algorithm utilizes the requested traffic pattern and the network topology data to compute the actual traffic pattern.

21. (Previously Presented) The network of claim 19, wherein the network further comprises a plurality of switches, and wherein the connection controller:

calculates a plurality of routing trees for the plurality of switches;

calculates a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches, wherein each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of destinations in the network; and

populates a forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions.

22. (Previously Presented) The network of claim 19, wherein computing an actual traffic pattern comprises executing a rearrangement algorithm and assigning one of a plurality of Destination Location Identifiers (DLID) to the packet such that the network operates as a strictly non-interfering network.

23. (Previously Presented) The network of claim 22, wherein the network further comprises a plurality of switches, wherein the packet follows a path through at least a portion of the plurality of switches in the network, and wherein each of the portion of the plurality of switches forwards the packet according to the one of the plurality of DLIDs assigned to the packet such that the network operates as a strictly non-interfering network.

24. (Previously Presented) The network of claim 23, wherein each of the portion of the plurality of switches looks up the one of the plurality of DLIDs assigned to the packet in a forwarding table.

25. (Previously Presented) The network of claim 24, wherein each of the portion of the plurality of switches forwards the packet in accordance with the one of the plurality of DLIDs assigned to the packet as found in a forwarding table.

26. (Previously Presented) The network of claim 19, wherein the network is a Clos network.

27. (Previously Presented) The network of claim 19, further comprising

a plurality of switches; and

a plurality of destination end nodes,

wherein each of the plurality of source end notes transmits at least one the packets toward at least one of the plurality of destination end nodes via at least one of the plurality of switches;

the connection controller determines the requested traffic pattern based on the plurality of source end nodes and the plurality of destination end nodes; and

the actual traffic pattern defines a sub-network that communicates the plurality of source end nodes with the plurality of destination end nodes non-interferingly via at least one of the plurality of switches.

28. (Previously Presented) The network of claim 27, wherein the sub-network has a characteristic of a Clos network.

29. (Previously Presented) The network of claim 28, wherein the characteristic is strictly non-blocking.

30. (Previously Presented) The network of claim 28, wherein the characteristic is rearrangably non-blocking.

31. (Previously Presented) A network comprising a computer-readable medium containing computer instructions for instructing a processor to perform a method of populating a forwarding table, the instructions comprising:

determining a sub-network for packets to be transmitted non-interferingly from a plurality of source end nodes based on a requested traffic pattern of the packets and network topology data received, including:

calculating a plurality of routing trees for a plurality of switches;

calculating a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches, wherein each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of end nodes; and

populating the forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions and wherein the forwarding instructions create paths appropriate to make the sub-network operate as a strictly non-interfering network; and

communicating a path of the sub-network to the plurality of source end nodes.

32. (Previously Presented) The network of claim 31, wherein the sub-network has a characteristic of a Clos network.

33. (Previously Presented) The network of claim 31, wherein each of the plurality of end nodes comprises a destination, and wherein the destination is identified by a BaseLID.

34. (Previously Presented) The network of claim 31, wherein calculating the plurality of routing trees comprises for each spine node in the network, calculating a shortest path from the spine node to each of the plurality of end nodes.

35. (Previously Presented) The network of claim 31, wherein each of the plurality of routing trees comprises at least a portion of the plurality of switches and corresponding plurality of links that form a shortest path from one of the plurality of end nodes to a spine node of the sub-network.